

US EPA ARCHIVE DOCUMENT

CATALOG DOCUMENTATION  
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE  
1993-1996 MID-ATLANTIC STREAMS DATA

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document  
EMAP Surface Waters

1.2 Authors of the Catalog Entry  
U.S. EPA NHEERL Western Ecology Division  
Corvallis, OR

1.3 Catalog Revision Date  
March 1999

1.4 Data Set Name  
BENCNT

1.5 Task Group  
Surface Waters

1.6 Data Set Identification Code  
00120

1.7 Version  
002

1.8 Requested Acknowledgment

These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publication, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency through its EMAP Surface Waters Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

## 2. INVESTIGATOR INFORMATION

### 2.1 Principal Investigator

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### 2.2 Investigation Participant - Sample Collection

Oregon State University  
State of Virginia  
State of West Virginia  
State of Maryland  
State of Pennsylvania  
University of Maine  
U.S. Fish and Wildlife Service  
U.S. Environmental Protection Agency  
Office of Research and Development  
Region III

## 3. DATA SET ABSTRACT

### 3.1 Abstract of the Data Set

The primary function of the stream benthos data are to provide a snapshot of the benthos assemblage present in the stream at the time of sampling. The benthos community represents an integral component of stream biological integrity.

### 3.2 Keywords for the Data Set

Benthos assemblage, benthos community, benthos species identification

## 4. OBJECTIVES AND INTRODUCTION

### 4.1 Program Objective

The Environmental Monitoring and Assessment Program (EMAP) was designed to periodically estimate the status and trends of the Nation's ecological resources on a regional basis. EMAP provides a strategy to identify and bound the extent, magnitude and location of environmental degradation and improvement on a regional scale based on a probability-based statistical survey design.

#### 4.2 Data Set Objective

This data set is part of a demonstration project to evaluate approaches to monitoring streams in EMAP. The data set contains the results of multi-habitat sample of the benthos assemblage taken during spring low-flow.

#### 4.3 Data Set Background Discussion

The benthos community within a stream is an integral component of stream biological integrity. This data set contains a list of species and counts of numbers of individuals of each species collected at each stream sampled.

#### 4.4 Summary of Data Set Parameters

Composite benthic macroinvertebrate parameters include taxonomic name of invertebrates identified in the sample to lowest taxonomic level possible, primary and secondary trophic group function codes, quantity identified in sample, and the Pollution Tolerance Value for the identified taxa.

### 5. DATA ACQUISITION AND PROCESSING METHODS

#### 5.1 Data Acquisition

##### 5.1.1 Sampling Objective

To obtain a sample of the benthos assemblage within a stream during a two month sampling window from April through mid-June.

##### 5.1.2 Sample Collection Methods Summary

The assemblage was sampled using a modified kicknet with 595 micron mesh distributed in multiple habitats throughout the stream.

##### 5.1.3 Sampling Start Date

April 1993

##### 5.1.4 Sampling End Date

September 1996

##### 5.1.5 Platform

NA

##### 5.1.6 Sampling Gear

Modified kicknet with 595 micron mesh

##### 5.1.7 Manufacturer of Instruments

NA

##### 5.1.8 Key Variables

NA

##### 5.1.9 Sampling Method Calibration

NA

##### 5.1.10 Sample Collection Quality Control

See Lazorchak, et al. 1998.

#### 5.1.11 Sample Collection Method Reference

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00. U.S. Environmental Protection Agency, Las Vegas Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

#### 5.1.12 Sample Collection Method Deviations

NA

### 5.2 Data Preparation and Sample Design

#### 5.2.1 Sample Processing Objective

See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

#### 5.2.2 Sample Processing Methods Summary

See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

#### 5.2.3 Sample Processing Method Calibration

See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

#### 5.2.4 Sample Processing Quality Control

See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

#### 5.2.5 Sample Processing Method Reference

See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

### 6. DATA MANIPULATIONS

#### 6.1 Name of New or Modified Values

None.

#### 6.2 Data Manipulation Description

See Chaloud and Peck (1994).

## 7. DATA DESCRIPTION

### 7.1 Description of Parameters

Parameter Data	Parameter
SAS Name Type Len Format Label	
ABUND Num 8	Number of Individuals Counted
CLASS Char 30 \$CHAR	Class
DATE_COL Num 8 MMDDYY	Date stream visited
DISTINCT Char 1	Distinct Taxa within Sample (Y/N)
FAMILY Char 30 \$CHAR	Family
FLOWTYPE Char 1	Stream Habitat P)ool,R)iffle,C)omposite
FXN Char 2 \$CHAR	Functional Feeding Group
GENUS Char 50 \$CHAR	Genus
LAT_DD Num 8	Sample Site Latitude (decimal degrees)
LON_DD Num 8	Sample Site Longitude (decimal degrees)
ORDER Char 30 \$CHAR	Order
PHYLUM Char 30 \$CHAR	Phylum
PTV Num 8	Pollutant Tolerance Value
SAMPLED Char 30	Site Sampled Code
SAMP_ID Num 8	Sample Tracking Number (barcode)
SPECIES Char 30	Species Name
STRMNAME Char 40	Stream Name from 7.5 map
STRM_ID Char 8	EMAP Stream Identifier
SUBFAM Char 30 \$CHAR	Subfamily
TAXANAME Char 50 \$CHAR	Lab Taxa Name
TRIBE Char 30 \$CHAR	Tribe
VISIT_NO Num 8	Sample Visit Number
YEAR Num 8	Year sampled

#### 7.1.6 Precision to which values are reported

#### 7.1.7 Minimum Value in Data Set

Name	Min
ABUND	1
DATE_COL	04/26/1993
LAT_DD	36.5535
LON_DD	-83.24443889
PTV	0.5
SAMP_ID	202001
VISIT_NO	1
YEAR	1993

### 7.1.7 Maximum Value in Data Set

Name	Max
ABUND	335
DATE_COL	09/15/1996
LAT_DD	42.355663889
LON_DD	-74.2589
PTV	10
SAMP_ID	999918
VISIT_NO	9
YEAR	1996

### 7.2 Data Record Example

#### 7.2.1 Column Names for Example Records

"ABUND", "CLASS", "DATE\_COL", "DISTINCT", "FAMILY", "FLOWTYPE", "FXN", "GENUS",  
"LAT\_DD", "LON\_DD", "ORDER", "PHYLUM", "PTV", "SAMPLED", "SAMP\_ID", "SPECIES",  
"STRMNAME", "STRM\_ID", "SUBFAM", "TAXANAME", "TRIBE", "VISIT\_NO", "YEAR"

#### 7.2.2 Example Data Records

1, "HIRUDINEA", 05/17/1994, "Y", "GLOSSIPHONIIDAE", "P", "PA", "NA", 38.52530,  
-75.63110, "RHYNCHOBDELLIDA", "ANNELIDA", 6.00, "Yes", 211538, "NA",  
"TUSOCKY BR", "DE750S", " ", "GLOSSIPHONIIDAE", " ", 1, 1994

1, "OLIGOCHAETA", 05/17/1994, "Y", "LUMBRICULIDAE", "P", "SC", "LUMBRICULUS",  
38.52530, -75.63110, "LUMBRICULIDA", "ANNELIDA", 7.80, "Yes", 211538, "NA",  
"TUSOCKY BR", "DE750S", " ", "LUMBRICULUS SP.", " ", 1, 1994

1, "OLIGOCHAETA", 05/17/1994, "Y", "NAIDIDAE", "P", "SC", "PRISTINELLA", 38.52530,  
-75.63110, "TUBIFICIDA", "ANNELIDA", 10.00, "Yes", 211538, "NA", "TUSOCKY BR", "DE750S",  
" ", "PRISTINELLA SP.", " ", 1, 1994

6, "OLIGOCHAETA", 05/17/1994, "Y", "TUBIFICIDAE", "P", "SC", "NA", 38.52530, -75.63110,  
"TUBIFICIDA", "ANNELIDA", 8.00, "Yes", 211538, "NA", "TUSOCKY BR", "DE750S",  
" ", "TUBIFICIDAE W/O CAPILLIFORM CHAETAE", " ", 1, 1994

1, "CRUSTACEA", 05/17/1994, "Y", "CRANGONYCTIDAE", "P", "OM", "SYNURELLA", 38.52530,  
-75.63110, "AMPHIPODA", "ARTHROPODA", 4.00, "Yes", 211538, "CHAMBERLAINI",  
"TUSOCKY BR", "DE750S", " ", "SYNURELLA CHAMBERLAINI", " ", 1, 1994

## 8. GEOGRAPHIC AND SPATIAL INFORMATION

### 8.1 Minimum Longitude

-83 Degrees 14 Minutes 39 Seconds West (-83.24444 Decimal Degrees )

### 8.2 Maximum Longitude

-74 Degrees 15 Minutes 32 Seconds West (-74.25890 Decimal Degrees )

### 8.3 Minimum Latitude

36 Degrees 33 Minutes 12 Seconds North (36.55350 Decimal Degrees )

### 8.4 Maximum Latitude

42 Degrees 21 Minutes 20 Seconds North (42.35566 Decimal Degrees )

## 9. QUALITY CONTROL / QUALITY ASSURANCE

### 9.1 Data Quality Objectives

See Chaloud and Peck (1994)

### 9.2 Quality Assurance Procedures

See Chaloud and Peck (1994)

### 9.3 Unassessed Errors

NA

## 10. DATA ACCESS

### 10.1 Data Access Procedures

### 10.2 Data Access Restrictions

### 10.3 Data Access Contact Persons

### 10.4 Data Set Format

### 10.5 Information Concerning Anonymous FTP

### 10.6 Information Concerning WWW

### 10.7 EMAP CD-ROM Containing the Data

## 11. REFERENCES

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program - Surface Waters: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group. U.S. Environmental Protection Agency. Office of Research and Development. Washington, D.C.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

## 12. TABLE OF ACRONYMS



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